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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,021	07/09/2003	Won-Kil Chang	1349.1260	8740
21171	7590	08/20/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			HSIEH, SHIH WEN	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/615,021	Applicant(s) CHANG, WON-KIL	
	Examiner Shih-wen Hsieh	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-15 and 17 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuronuma et al. (JP 406238906 A).

In regard to:

Claim 1:

Kuronuma et al. teach:

A sensor cleaning apparatus for an ink-jet printer having a sensor (201, figs. 2 and 4) attached to a side of a carriage (6, figs. 2 and 4), comprising:
a sensor wiper (30, fig. 1) wiping a surface of the sensor; and

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a wiper driving portion (71, fig. 1) driving the sensor wiper, refer to the English constitution.

The device of Kuronuma et al. DIFFERS from claim 1 in that it does not teach: wherein the sensor is positioned above the sensor wiper according to a movement of the carriage, and the sensor wiper is oscillated by the wiper driving portion by a predetermined amplitude to clean the surface of the sensor.

From Kuronuma et al.'s invention, the sensor (201) disclosed is a paper width detecting sensor. A paper width detecting sensor has to have one of its surfaces facing the paper so as to detect the width of the paper by way of such as a photo-emitter and a photoreceptor contains in the sensor, which is well known in the art. Therefore, this surface is subject to contamination, and if not clean, the sensor will eventually lost its function. Base on this the sensor will be in a position above the wiper when the carriage mounted with the sensor returns to a so-called home position (HP) where this wiper is disposed.

Therefore it would have been an obvious matter that in order for the functioning surface (the surface facing the paper) of the sensor to be cleaned by the wiper, the sensor will have to be situated above the wiper when the carriage mounted with the sensor returns to HP, and the wiper will oscillate back and forth by the motor (71) to clean the surface of the sensor in a way similar to a wiper cleans nozzle face, only the face cleaned by the wiper is a face of the sensor.

Claims 2 and 3:

Kuronuma et al. teach a wiper to wipe clean a surface of the sensor **without further teaching** the direction of wiping with respect to the direction of movement of the carriage.

Therefore, the device of Kuronuma et al. DIFFERS from claims 2 and 3 in that it does not teach:

wherein the sensor wiper oscillates in a perpendicular direction with respect to an advancing direction of the carriage (claim 2); and

wherein the sensor wiper oscillates in a parallel direction with respect to an advancing direction of the carriage (claim 3).

Both way recited above are well known in the art, refer to MPEP 2144.03, In re Malcolm, 129 F.2d 529, 54 USPQ 235 (CCPA 1942).

Therefore it would have been an obvious matter that by selecting a proper way of driving the wiper such that its moving directions can be either as recited in claim 2 or as recited in claim 3, because both ways are commonly used in the prior art so as to allow a wiper to clean a surface through its oscillating or reciprocating movement.

Claim 4:

wherein the sensor wiper is formed of a rubber material.

Rejection:

Wiper is generally made of such as nitric rubber or EPDM, refer to MPEP 2144.03, In re Malcolm, 129 F.2d 529, 54 USPQ 235 (CCPA 1942).

Claim 5:

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wherein the sensor is moved above the sensor wiper when the inkjet printer is switched to a maintenance state.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above.

Claim 6:

Kuronuma et al. further teach:

wherein the sensor is periodically moved above the sensor wiper during a printing process, refer to Operation page 1 of 1; Example [0025] to [0028].

Claim 16:

A method in a sensor cleaning apparatus for an inkjet printer having a sensor attached to a side of a carriage, the method comprising:

wiping a surface of the sensor using a sensor wiper; and

driving the sensor wiper using a wiper driving portion;

wherein the sensor is positioned above the sensor wiper according to a movement of the carriage, and the sensor wiper is oscillated by the wiper driving portion by a predetermined amplitude to clean the surface of the sensor.

Rejection:

This claim corresponds to claim 1, and all the steps in this method claim are deemed to be made obvious by the functions of the structure in the combination discussed above for claim 1.

Allowable Subject Matter

4. Claims 7-15 and 17 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

In regard to:

Claims 7-15:

The primary reason for the allowance of claims 7-15 is the inclusion of the subject matter and limitation of the movable plate mounted with a wiper for wiping nozzles and also a wiper for wiping the sensor, which is mounted on the carriage. It is this subject matter and limitation found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

Claim 17:


The primary reason for the allowance of claim 17 is the inclusion of the method step of causing a sensor wiper formed on the movable plate, which also mounted a wiper for wiping the nozzles to be in contact with a surface of the sensor when the carriage is positioned above the nozzle wiper. It is this step found in this claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior.

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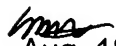
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S D Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHIH-WEN HSIEH
PRIMARY EXAMINER

Shih-wen Hsieh
Primary Examiner
Art Unit 2861

SWH


Aug. 18, 2008